Reducing the Health Consequences of Smoking

25 YEARS OF PROGRESS

a report of the Surgeon General

1989

Executive Summary

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control
Center for Chronic Disease Prevention and Health Promotion
Office on Smoking and Health
Rockville, Maryland 20857

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THE SECRETARY OF HEALTH AND HUMAN SERVICES
WASHINGTON, D.C. 20201

DEC 29 1988

The Honorable Jim Wright
Speaker of the House
of Representatives
Washington, D.C. 20515

Dear Mr. Speaker:

It is my pleasure to transmit to the Congress the 1989 Surgeon General's Report on the health consequences of smoking, as mandated by Section 8(a) of the Public Health Cigarette Smoking Act of 1969. The report was prepared by the Centers for Disease Control's Office on Smoking and Health.

This report, entitled Reducing the Health Consequences of Smoking: 25 Years of Progress, examines the fundamental developments over the past quarter century in smoking prevalence and in mortality caused by smoking. It highlights important gains in preventing smoking and smoking-related disease, reviews changes in programs and policies designed to reduce smoking, and emphasizes sources of continuing concern and remaining challenges.

During the past 25 years, smoking behavior has changed dramatically. Nearly half of all living adults who ever smoked have quit. The prevalence of smoking has declined steadily, with a particularly impressive decline among men. Smoking prevalence among men decreased from 50 percent in 1965 to 32 percent in 1987. As a result, lung cancer mortality rates among men are now leveling off after many decades of consistent increase. Despite this progress, the prevalence of smoking remains higher among blacks, blue-collar workers, and less-educated persons, than in the overall population. Smoking among high school seniors leveled off from 1981 through 1987 after previous years of decline.

In 1985, the last year for which estimates are available, approximately 390,000 Americans died as the result of past and current smoking. This represents more than one of every six deaths in the United States. Smoking remains the single most important preventable cause of death in our society.

To maintain our momentum toward a smoke-free society, we must focus our efforts on preventing smoking initiation and encouraging smoking cessation among high-risk populations. Increased public information activities, smoking prevention and cessation programs, and policies that encourage nonsmoking behavior should be pursued. Unless we meet this challenge successfully, smoking-related mortality will remain high well into the 21st Century.

Sincerely,

Otis R. Bowen, M.D.
Secretary

Enclosure

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WASHINGTON, D.C. 20201

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President of the Senate
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Enclosure

FOREWORD

Twenty-five years have elapsed since publication of the landmark report of the Surgeon General's Advisory Committee on Smoking and Health. By any measure, these 25 years have witnessed dramatic changes in attitudes toward and use of tobacco in the United States. The health consequences of tobacco use will be with us for many years to come, but those consequences have been greatly reduced by the social revolution that has occurred during this period with regard to smoking.

Since 1964, substantial changes have occurred in scientific knowledge of the health hazards of smoking, in the impact of smoking on mortality, in public knowledge of the dangers of smoking, in the prevalence of smoking and using other forms of tobacco, in the availability of programs to help smokers quit, and in the number of policies that encourage nonsmoking behavior and protect nonsmokers from exposure to environmental tobacco smoke. These changes and other significant developments, as well as the overall impact of the Nation's antismoking activities, are reviewed in detail in the individual chapters of this Report. Based on this review, five major conclusions of the entire Report were reached. The first two conclusions highlight important gains in preventing smoking and smoking-related disease in the United States. The last three conclusions emphasize sources of continuing concern and remaining challenges. The conclusions are:

1. **The prevalence of smoking among adults decreased from 40 percent in 1965 to 29 percent in 1987. Nearly half of all living adults who ever smoked have quit.**
2. **Between 1964 and 1985, approximately three-quarters of a million smoking-related deaths were avoided or postponed as a result of decisions to quit smoking or not to start. Each of these avoided or postponed deaths represented an average gain in life expectancy of two decades.**
3. **The prevalence of smoking remains higher among blacks, blue-collar workers, and less educated persons than in the overall population. The decline in smoking has been substantially slower among women than among men.**
4. **Smoking begins primarily during childhood and adolescence. The age of initiation has fallen over time, particularly among females. Smoking among high school seniors leveled off from 1980 through 1987 after previous years of decline.**
5. **Smoking is responsible for more than one of every six deaths in the United States. Smoking remains the single most important preventable cause of death in our society.**

The last 25 years have witnessed phenomenal changes in the way Americans think about tobacco use. More people now than ever before consider smoking to be outside the social norm. Antismoking programs and policies have contributed to this change. This shift in societal attitudes is almost certain to generate additional efforts to further limit the use of tobacco.

Almost half of all living Americans who ever smoked have quit. This is especially remarkable when one takes into account the powerful media images enticing people to smoke and the powerfully addictive nature of nicotine. As the downward trends in smoking behavior continue, we can expect to see a decline in the number of premature deaths and avoidable morbidity due to smoking.

For now, however, we must recognize that continued tobacco exposure in the population will cause a great deal of human suffering for many decades. Thus, we must not rest upon the laurels of the past quarter century. As long as children and adolescents continue to find reasons to use tobacco, replacements will be recruited for at least some of the smokers who quit or who die prematurely. If current trends continue, these replacements will be found disproportionately among minority groups, among the less educated, among the most economically disadvantaged, and among women.

We must look back on the last 25 years of change in order to look forward to our tasks for the future. Surely those tasks include expanding educational efforts for the young and old alike, restrictions against minors' access to tobacco, support for cessation activities, and restrictions against smoking in worksites, restaurants, transportation vehicles, and other public places.

The Public Health Service is dedicated to continuing the legacy of the 1964 Report. We hope this 25th Anniversary Report will stimulate new commitment to action by public health officials, civic leaders, educators, scientists, and the public at large on the problem of tobacco use, especially among children, adolescents, and high-risk groups.

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PREFACE

Exactly 25 years ago, on January 11, 1964, Luther L. Terry, M.D., Surgeon General of the U.S. Public Health Service, released the report of the Surgeon General's Advisory Committee on Smoking and Health. That landmark document, now referred to as the first Surgeon General's Report on Smoking and Health, was America's first widely publicized official recognition that cigarette smoking is a cause of cancer and other serious diseases.

On the basis of more than 7,000 articles relating to smoking and disease already available at that time in the biomedical literature, the Advisory Committee concluded that cigarette smoking is a cause of lung cancer and laryngeal cancer in men, a probable cause of lung cancer in women, and the most important cause of chronic bronchitis. The Committee stated that "Cigarette smoking is a health hazard of sufficient importance in the United States to warrant appropriate remedial action."

What would constitute "appropriate remedial action" was left unspecified. But the release of the report was the first in a series of steps, still being taken 25 years later, to diminish the impact of tobacco use on the health of the American people.

This 1989 Report, the 20th in a series of Surgeon General's Reports on the Health Consequences of Smoking, spells out the dramatic progress that has been achieved in the past quarter century against one of our deadliest risks.

The circumstances surrounding the release of the first report in 1964 are worth remembering. The date chosen was a Saturday morning, to guard against a precipitous reaction on Wall Street. An auditorium in the State Department was selected because its security could be assured—it had been the site for press conferences of the late President John F. Kennedy, whose assassination had occurred less than 2 months earlier.

The first two copies of the 387-page, brown-covered Report were hand delivered to the West Wing of the White House at 7:30 on that Saturday morning. At 9:00, accredited press representatives were admitted to the auditorium and "locked in," without access to telephones. Surgeon General Terry and his Advisory Committee took their seats on the platform. The Report was distributed and reporters were allowed 90 minutes to read it. Questions were answered by Dr. Terry and his Committee members. Finally, the doors were opened and the news was spread. For several days, the Report furnished newspaper headlines across the country and lead stories on television newscasts. Later it was ranked among the top news stories of 1964.

During the quarter century that has elapsed since that Report, individual citizens, private organizations, public agencies, and elected officials have tirelessly pursued the Advisory Committee's call for "appropriate remedial action." Early on, the U.S. Congress adopted the Federal Cigarette Labeling and Advertising Act of 1965 and the

Public Health Cigarette Smoking Act of 1969. These laws required a health warning on cigarette packages, banned cigarette advertising in the broadcast media, and called for an annual report on the health consequences of smoking.

In 1964, the Public Health Service established a small unit called the National Clearinghouse for Smoking and Health (NCSH). Through the years, the Clearinghouse and its successor organization, the Office on Smoking and Health, have been responsible for the 20 reports on the health consequences of smoking previously mentioned, eight of which have been issued during my tenure as Surgeon General. In close cooperation with voluntary health organizations, the Public Health Service has supported highly successful school and community programs on smoking and health, has disseminated research findings related to tobacco use, and has ensured the continued public visibility of antismoking messages.

Throughout this period, tremendous changes have occurred. As detailed in this Report, we have witnessed expansion in scientific knowledge of the health hazards of smoking, growing public knowledge of the dangers of smoking, increased availability of programs to prevent young people from starting to smoke and to help smokers quit, and widespread adoption of policies that discourage the use of tobacco.

Most important, these developments have changed the way in which our society views smoking. In the 1940s and 1950s, smoking was chic; now, increasingly, it is shunned. Movie stars, sports heroes, and other celebrities used to appear in cigarette advertisements. Today, actors, athletes, public figures, and political candidates are rarely seen smoking. The ashtray is following the spittoon into oblivion.

Within this evolving social milieu, the population has been giving up smoking in increasing numbers. Nearly half of all living adults who ever smoked have quit. The most impressive decline in smoking has occurred among men. Smoking prevalence among men has fallen from 50 percent in 1965 to 32 percent in 1987. These changes represent nothing less than a revolution in behavior.

The antismoking campaign has been a major public health success. Those who have participated in this campaign can take tremendous pride in the progress that has been made.

The analysis in this Report shows that in the absence of the campaign, there would have been 91 million American smokers (15 to 84 years of age) in 1985 instead of 56 million. As a result of decisions to quit smoking or not to start, an estimated 789,000 smoking-related deaths were avoided or postponed between 1964 and 1985. Furthermore, these decisions will result in the avoidance or postponement of an estimated 2.1 million smoking-related deaths between 1986 and the year 2000.

This achievement has few parallels in the history of public health. It was accomplished despite the addictive nature of tobacco and the powerful economic forces promoting its use.

The Remaining Challenges

Despite this achievement, smoking will continue as the leading cause of preventable, premature death for many years to come, even if all smokers were to quit today. Smoking cessation is clearly beneficial in reducing the risk of dying from smoking-related

diseases. However, for some diseases, such as lung cancer and emphysema, quitting may not reduce the risk to the level of a lifetime nonsmoker even after many years of abstinence. This residual health risk is one reason why approximately 390,000 Americans died in 1985 as the result of smoking, even after two decades of declining smoking rates.

The critical message here is that progress in curtailing smoking must continue, and ideally accelerate, to enable us to turn smoking-related mortality around. Otherwise, the disease impact of smoking will remain high well into the 21st century.

Just maintaining the current rate of progress is a challenge. Compared with nonsmokers, smokers are disproportionately found in groups that are harder to reach, and this disparity may increase over time. Greater effort and resources will need to be devoted to achieve equivalent reductions in smoking among those whose behavior has survived strong, countervailing social pressures.

Today, thanks to the remarkable progress of the past 25 years, we can dare to envision a smoke-free society. Indeed it can be said that the social tide is flowing toward that bold objective. To maintain momentum, we need to direct special attention to the following groups within our society:

Children and Adolescents

As a pediatric surgeon, and now as Surgeon General, I have dedicated my career to protecting the health of children. In the case of smoking, children and adolescents hold the key to progress toward curbing tobacco use in future generations.

If the adult rate of smoking were to continue at the present level, the impact of smoking on the future health and welfare of today's children would be enormous. Research has shown that one-fourth or more of all regular cigarette smokers die of smoking-related diseases. If 20 million of the 70 million children now living in the United States smoke cigarettes as adults (about 29 percent), then at least 5 million of them will die of smoking-related diseases. This figure should alarm anyone who is concerned with the future health of today's children.

Two additional factors make smoking among young people a preeminent public health concern: (1) the age of initiation of smoking, and (2) nicotine addiction. As this Report shows, four-fifths of smokers born since 1935 started smoking before age 21. The proportion of smokers who begin smoking during adolescence has been increasing over time, particularly among women.

In the Teenage Smoking Survey conducted by the Department of Health, Education, and Welfare in 1979, respondents were asked, "What would you say is the possibility that five years from now you will be a cigarette smoker?" Among smokers, half answered "definitely not" or "probably not." This response suggests that many children and adolescents are unaware of, or underestimate, the addictive nature of smoking. The predecessor to this volume, *The Health Consequences of Smoking: Nicotine Addiction*, provided a comprehensive review of the evidence that cigarettes and other forms of tobacco are addicting and that nicotine is the drug in tobacco that causes addiction.

These two factors refute the argument that smoking is a matter of free choice. Most smokers start smoking as teenagers and then become addicted. By the time smokers

become adults, when they would be expected to have greater appreciation of the health effects of smoking, many have difficulty quitting. Today, 80 percent of smokers say they would like to quit; two-thirds of smokers have made at least one serious attempt to quit. Characteristically, people quit smoking several times before becoming permanent ex-smokers.

The prevalence of daily smoking among high school seniors leveled off from 1981 through 1987, at about 20 percent, after previous years of decline. Each day, more than 3,000 American teenagers start smoking. If we can substantially reduce this number, we will soon achieve a major impact on smoking prevalence among adults. Although research efforts in prevention are increasing, prevention programs are not yet reaching large numbers of young people. The public health community should pay at least as much attention to the prevention of smoking among teenagers as it now pays to smoking cessation among adults. Comprehensive school health education, incorporating tobacco use prevention, should be provided in every school throughout the country.

Women

Since release of the first Surgeon General's Report, the prevalence of smoking among women has declined much more slowly than among men. If current trends continue, smoking rates will be about equal among men and women in the mid-1990s, after which women may smoke at a higher rate than men.

The public health impact of this trend is already being seen. Lung cancer mortality rates are increasing steadily among women, and estimates by the American Cancer Society indicate that this disease has now overtaken breast cancer as the number one cause of cancer death among women. Smoking during pregnancy poses special risks to the developing fetus and is an important cause of low birthweight and infant mortality. Smoking and oral contraceptive use interact to increase dramatically the risk of cardiovascular disease. Women's organizations and women's magazines have paid scant attention to these issues.

The key to addressing this problem is the prevention of smoking among female adolescents. The disparity in smoking prevalence between men and women is primarily a reflection of differences in smoking initiation. Smoking initiation has declined much more slowly among females than among males. This difference is due, in large part, to increasing initiation rates among less educated young women. Among high school seniors, the prevalence of daily smoking has been higher among females than among males each year since 1977.

In summary, women, and especially female adolescents not planning higher education, are an important target group for prevention activities.

Minorities

Smoking rates are higher in certain racial and ethnic minority groups, many of which already suffer from a disproportionate share of risk factors and illness. In particular, smoking prevalence has been consistently higher among black men than among white

men (41 and 31 percent, respectively, in 1987). In addition, the limited data available show higher rates of smoking among Hispanic men than among white men.

Trends in smoking initiation, prevalence, and quitting among blacks and whites show similar rates of change from 1974 to 1985. Thus, the gap in smoking prevalence between blacks and whites is not widening. However, to reduce the gap in smoking between blacks and whites, prevention efforts must focus on blacks more successfully. The public health community is only now beginning to address this problem. The urgency of the situation is greater because cigarette companies are increasingly targeting their marketing efforts at blacks and Hispanics.

Blue-Collar Workers

The prevalence of smoking has been consistently higher among blue-collar workers than among white-collar workers. In 1985, 40 percent of blue-collar workers smoked compared with 28 percent of white-collar workers. Again, blue-collar workers are a major target of cigarette company advertising and promotional campaigns. Worksite smoking cessation programs, employee incentive programs, and policies banning or restricting smoking at the workplace are effective strategies to reach this group.

Toward a Smoke-Free Future

Because the general health risks of smoking are well known, because smoking is banned or restricted in a growing number of public places and worksites, and because smoking is losing its social acceptability, the overall prevalence of smoking in our society is likely to continue to decline. The progress we have achieved during the past quarter century is impressive.

Equally impressive, however, are the challenges we face. During the next quarter century and beyond, progress will be slow, and smoking-related mortality will remain high, unless the health community more effectively reaches children and adolescents, women, minorities, and blue-collar workers. Organizations that represent these groups can contribute substantially to the antismoking movement. In large part, the future health of these populations will depend on the degree to which schools, educators, parents' organizations, women's groups, minority organizations, employers, and employee unions join the campaign for a smoke-free society. Here in the United States, such a society is an attainable long-term goal.

Unfortunately, the looming epidemic of smoking and smoking-related disease in developing countries does not encourage similar optimism. According to the World Health Organization, increases in cigarette consumption between 1971 and 1981 exceeded population growth in all developing regions: by 77 percent in Africa, and by 30 percent in Asia and Latin America.

The topic of tobacco and health internationally, although critically important, especially for developing nations, is beyond the scope of this Report. I can only hope that

the lessons we have learned in the United States, as detailed in this Report, will help other countries take the necessary steps to avoid the devastation caused by use of tobacco.

C. Everett Koop, M.D., Sc.D.
Surgeon General

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